

THE EFFECT OF GENDER INEQUALITY ON FUNCTIONING OF GOVERNMENT AND
DEATHS IN CONFLICT

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Abstract

This research project examines the relationships among gender equality, the functioning of government, and conflict deaths. This study examines existing scholarship on these relationships and applies it to three hypotheses that propose those relationships may predict conflict deaths. The author performed a series of linear regression models and a moderating variable study on data sets from the Quality of Government and Uppsala University Conflict Data Program. The results show a small but significant positive relationship between gender inequality and countries with low functioning of government and suggest that low gender equality combined with a low functioning of government are possible predictors of conflict deaths.

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Introduction

Gender inequality, in all its myriad forms, has been the subject of research for quite some time. In most cases, however, gender inequality has been identified as more of a result of violent conflict than a causal mechanism. In the almost 20 years since the 9-11 attacks in the United States, the world has seen a marked increase in violent inter- and intra-state conflict deaths.¹ The U.S. and its allies have waged a questionably effective War on Terror that has seen significant terror networks dispersed into regions where they did not have strongholds before. The dispersal of the so-called Islamic State (ISIS) caliphate following defeats in Syria and Iraq, along with extremist groups recruiting in new territory, and an increase in various forms of transnational criminal activity has increased violent conflicts globally. Inter- and intra-state conflict deaths from diverse reasons have continued to rise.

Research has shown that violent conflict affects men and women differently. Military-aged males historically suffer the majority of the mortal consequences of war, while women typically suffer “second-round impacts” such as displacement and refugee status.² Violent, inter- and intra-state conflict inevitably leaves a wake of destruction in its path, where women have traditionally borne the most injustices. Research into gender inequality as an indicator or predictor of conflict death has seen much less research, however. This research paper will center around the main question of whether gender inequality can be used to predict conflict deaths, and if functioning of government has any interaction with gender inequality and conflict deaths.

¹ Ralph Sundberg and Erik Melander, "Introducing the UCDP Georeferenced Event Dataset," *Journal of Peace Research* 50, no. 4 (2013), 1-39.

² Mayra Buvinic et al., *Violent Conflict and Gender Inequality: An Overview*, Vol. 28, (2013), 110-138.

This paper will examine data from the United Nations Development Program's Gender Inequality Index (GII) and Freedom House's Functioning of Government (FOG) and their relationship to the Uppsala University's Data Conflict Program data on conflict deaths.

Theoretical puzzle

This paper intends to examine two topics: 1. whether a state's overall gender inequality rating can predict violent conflict deaths and 2. the interaction among gender inequality, government functioning, and conflict death. Why is this important? Gender inequality is an important human rights issue. Likewise, a government's ability to function free from corruption and subordination of elected officials is vital for nations to prosper. Suppose GII and FOG elements can be used to predict conflict deaths. In that case, the international community can use the data to strengthen efforts to reduce inequality in countries with a high GII and low FOG and help develop equality programs in nation-states with blossoming liberal democratic governments. By reducing gender inequality, governments can be more effective, and regional and global security strengthened.

Literature Review

This critical literature review will focus on current scholarship analyzing gender inequality as a critical element to human rights and how that may affect the larger concept of state prosperity, including the functioning of government, and consequently, conflict death. The concept of gender inequality according to previous research indicates that the factors of gender inequality, specifically those related to the gender inequality index, have potential causal relationships to conflict deaths.

To properly examine these elements, this review of scholarly literature will disaggregate the subcomponents of the GII: 1. reproductive health (sexual and reproductive health rights, SRH), 2. empowerment, and 3. economic status. Analysis of these elements in existing studies was examined for their effects on gender inequality and government functionality, including economic progress. Most research into each of the elements of the GII has been conducted in a disaggregated form. By separating the GII into its component categories, more research literature was available to review. The literature reviewed showed a clear correlation between human rights, gender inequality, government function, and economic progress but lacked substantial research into the relationship between those variables and conflict death.

Overall gender inequality correlation to violence

Some research has suggested a positive correlation between gender inequality and the rate of conflict deaths. In 2013 Åsa Ekvall examined aggregated data on women's norms in the workforce as an independent variable to conflict.³ Ekvall examined seven variables derived from the World Values Survey (WVS), the Global Gender Gap Index (GGGI), the Uppsala Conflict Data Base (UCDB), and the Global Peace Index (GPI).⁴ Contained in this data set under the WVS variables are norms and perceptions regarding women's right to work and variables from the GGGI that specifically address women's opportunity and participation in the workforce as a measure of gender inequality.⁵ Ekvall merged the seven variables into a separate independent variable called "Aggregate gender equality values."⁶ Because of the workforce data's aggregated nature and only one element as a labor force measurement, it is hard to identify any correlation

³ Åsa Ekvall, "Gender Equality, Attitudes to Gender Equality, and Conflict," in *Gendered Perspectives on Conflict and Violence: Part A*, Vol. 18A (Emerald Group Publishing Limited, 2014), 273-295.

⁴ Ibid., 287.

⁵ Ibid., 287.

⁶ Ibid., 288.

directly between women participating in the labor force and conflict. Much like the GII, Ekvall's research used a confluence of several gender-equality factors as one independent variable (IV). However, her study did show a significant correlation between the aggregated gender variable and conflict.

Ekvall's study examined an aggregate IV that did not contain any information on sexual reproductive health (SRH) as a factor of gender inequality; however, it did consider a "health and survival" category that measured life expectancy differentials between men and women. Secondary education was also a part of the aggregate, as a part of ratios measuring three categories: literacy rate, secondary education enrollment, and tertiary enrollment, all compared to males of the same demographic.⁷ The most significant difference between Ekvall's aggregated variable and the GII is that Ekvall's data on education and labor force participation is based almost exclusively on qualitative data from surveys, versus the GII quantitative data measure of specific ratios of participation. These differing methods do not diminish the importance of Ekvall's work; however, it does provide an opportunity to examine similar variables under a quantitative data set for confirmation of a relationship to conflict deaths.

Erik Melander offers perhaps the most compelling research between overall gender inequality and conflict, presented in 2005. Melander examined three different measures of gender equality concerning intrastate conflict: 1) Whether the highest leader of a state is a woman; 2) the percentage of women in parliament; and 3) the female to male higher education ratio.⁸ Melander used the UCDP data set from 2002, looking specifically at intrastate conflict resulting in at least 25 deaths in a year. Melander's research showed mixed results. Female state

⁷ Ibid., 287.

⁸ Erik Melander, "Gender Equality and Intrastate Armed Conflict," *International Studies Quarterly* 49, no. 4 (2005), 695-714. doi:10.1111/j.1468-2478.2005.00384.x.

leadership had no statistically significant relationship with intrastate conflict.⁹ Gender equality in parliamentary seats and educational freedom, however, are both correlated to fewer intrastate conflicts.¹⁰ These results are important, as they are similar to the hypotheses presented in this paper. In the roughly 20 years since Melander's data, there has been a significant increase in global conflict deaths stemming mainly from the continuing "global war on terror," the ISIS attempt to establish a caliphate, the fallout of the Syrian conflict, and the dispersal of extremist fighters to new regions.¹¹ This paper will attempt to strengthen Melander's research with more recent data and interaction with additional variables relating to gender equality and the functioning of government.

As previously seen, there is a modest amount of research suggesting a positive relationship between overall general inequality and conflict deaths. However, this review will break the GII down into its component parts. This disaggregation will provide other, more specific variables that might correlate with conflict deaths.

1. Reproductive health – what is the relationship between reproductive health, maternal mortality, and adolescent birth rates to gender inequality? Why is this important?

Reproductive health, maternal mortality rates, and adolescent birth rates are indicators for functioning governments, equal rights, security, and conflict rates. Governments with high incidences of human rights violations tend to have higher inter/intra-state conflict rates.¹²

⁹ Ibid., 706.

¹⁰ Ibid., 710.

¹¹ Uppsala University, "Uppsala University Data Conflict Program," <http://www.https://ucdp.uu.se/>

¹² Melander, 696.

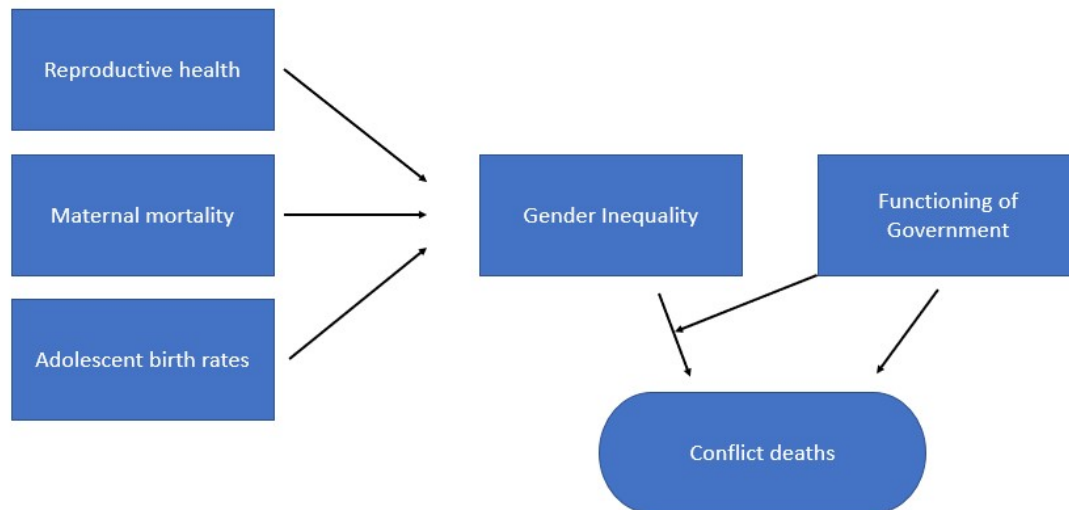


Fig. 1– Hypothesized interaction between reproductive health, GII, FOG, and conflict deaths

International human rights and women’s reproductive health are intrinsically linked. Rebecca Cook provides an in-depth analysis of this relationship.¹³ Although conducted in 1993, this research provides a firm base of results that remain relevant to gender studies today. Cook’s study specifically addresses the elements of the GII, reproductive health, maternal mortality rate, and adolescent birth rates as indicators for overall human rights. Cook outlines the initial disparity in legal application towards men and women, such as the lawful age of marriage in some countries as the starting point for “paternalistic control of women’s sexual and

¹³ R. J. Cook, "Human Rights, Maternal Mortality and Reproductive Health," *Profamilia : Planificacion, Poblacion Y Desarrollo* 9, no. 21 (1993), 43-68.

reproductive behavior.”¹⁴ Women having lower legal marriage ages makes them available to men earlier in their lives and deprives them of many opportunities.

By exerting legislative control over women’s reproductive status, states with high gender inequality can continue to maintain the status quo of women’s primary societal contribution as simply bearers of children. Cook submits the idea that this reduction of women to merely producing babies at an early age leads directly to the denial of “education, preparation (for roles in society), and experience” available to men.¹⁵ This early assignment of gender roles for women as “baby machines” removes much of their opportunity to contribute to society in meaningful leadership and infrastructure roles. These gender-driven structures weaken communities and governments.

Additionally, Cook describes the negative impact of governmental ignorance of women’s reproductive rights, which directly addresses the elements of the GII: maternal mortality ratio and adolescent birth rates. By perpetuating or ignoring women’s reproductive health inequalities, large portions of young women become pregnant early, resulting in “A high proportion of teenage pregnancies ending in fetal loss, induced abortion, or infant death, as well as death or harmful consequences.”¹⁶

In a more recent study that edifies Cook’s 1993 research, Cook and Shaw find that since Cook’s initial study, the correlation between human rights, women’s reproductive health, and developing nations' success is still relevant and self-evident.¹⁷ Cook and Shaw outline that it is a well-accepted fact that denying women’s reproductive health leads to higher maternal death rates

¹⁴ Cook, 74.

¹⁵ Ibid., 74.

¹⁶ Cook, 75.

¹⁷ Dorothy Shaw and Rebecca J. Cook, "Applying Human Rights to Improve Access to Reproductive Health Services," *International Journal of Gynecology & Obstetrics* 119 (2012), S55-S59. doi:10.1016/j.ijgo.2012.03.018.

and their children's preventable mortality rates. Cook cites the United Nations Human Rights Council's declaration that "preventable maternal mortality and morbidity is a human rights violation," pointing out that despite U.N. Global Strategy for Women's and Children's Health, in 2011, eight million women suffered death or some sort of disability related to pregnancy.¹⁸ Cook points to Brazil, Paraguay, and India as benchmark locations for applying international law, holding those governments directly responsible for their citizens' "avoidable maternal deaths."¹⁹

The relevant question to this paper is "how does the disaggregated GII element of women's reproductive health, maternal mortality rate, and adolescent birth rate contribute to state conflict deaths?" How a government views and addresses the elements of the GII is a crucial element to this paper's hypothesis that gender inequality interaction with government functioning may predict conflict deaths. By repressing reproductive health in women, governments deny women access to education and opportunities to contribute meaningfully to their respective communities. Additionally, Cook and Shaw clearly show a correlation between lack of government support for women's reproductive health and maternal & child mortality and morbidity rates. This relationship has a "snowball" effect, as further literature review will show. Government ignorance/repression of sexual reproductive health (SRH) rights leads to fewer opportunities for women, leading to denial and exclusion of women in government. Fewer women in leadership roles in government correlate to government corruption and functioning.

Hartman et al. and Alfonso Barragués Fernandez examine portions of the SRH and government function relationship by analyzing the U.N.'s 2030 Agenda for Sustainable

¹⁸ (Cook and Shaw), S56.

¹⁹ Ibid., S56.

Development.²⁰ Barragués Fernandez discusses the U.N. 2030 Agenda, its practical application, and deficiencies in a 2020 research project. Fernandez shows that the 2030 Agenda addressed the SRH shortcomings in both the 1993 Vienna World Conference on Human Rights and the 2000 U.N. Millennium Declaration, which brought attention to sexual and reproductive health and its relation to nation-states development and overall human rights. The 2030 Agenda has 169 listed Sustainable Development Goals (SDGs). Fernandez points out that “at least 156” of the SDGs directly correlate to human rights, including SRH rights.²¹ The 2030 Agenda provides for voluntary national reviews (VNRs) for countries to examine their progress according to the Agenda’s SDG categories. Fernandez’s analysis of these VNRs shows that states are not taking advantage of their databases created by previous VNRs related explicitly to their “engagement with human rights mechanisms,” including Universal Periodic Reviews (UPR) and international treaties.

Simply put, the U.N. 2030 Agenda has provided a definitive relationship between SRH and human rights, mechanisms for self-evaluation, and reporting. Yet, many countries are engaging in mere rhetoric when it comes to improving women's reproductive health rights. They are self-monitoring and reporting yet are not using the results for meaningful changes in women’s reproductive health rights. The reasons for this are unclear, but the effects of ignoring SRH rights are measurable.

²⁰ Miriam Hartmann et al., "How are Gender Equality and Human Rights Interventions Included in Sexual and Reproductive Health Programmes and Policies: A Systematic Review of Existing Research Foci and Gaps," *PLoS ONE* 11, no. 12 (2016), 1-14. doi:10.1371/journal.pone.0167542.; Alfonso Barragués Fernández, "Accountability for Sexual and Reproductive Health and Rights in Development Practice: Building Synergies," *Null* 28, no. 1 (2020), 1848399. doi:10.1080/26410397.2020.1848399.; The United Nations, *The 2030 Agenda for Sustainable Development*. (New York, NY: United Nations,[2015]).

²¹ Fernandez, 424.

Hartman examined current sexual and reproductive health research to identify gaps in data as tools for “integrating gender equality and human rights approaches in SRH programs.”²² The article clearly delineates SRH as an aspect of human rights determined by social structures that include gender inequality as a norm. Hartman outlines that SRH by itself is a critical element of human rights, and combined with other “social and economic inequalities,” can promote “male dominance over women” and other significantly harmful social and governmental results.²³

Hartman’s research reviewed 3,073 abstracts of peer-reviewed literature published between 1994 and 2014 to examine the inclusion or exclusion of SRH as a direct human rights study element.²⁴ The research showed that only a handful of research projects directly addressed the “intersection of gender and human rights.”²⁵ Hartman also identified methodological gaps in the SRH-human rights nexus research, showing that none of the research projects had taken a combined qualitative/quantitative approach.²⁶ The result of this study indicates that although what would appear to be an axiomatic subject of SRH and human rights correlation, there are few specific studies on this relationship and the effectiveness of international programs. Hartman’s research provides opportunities for additional study of the SRH-human rights nexus. It also points to a relationship between SRH, human rights, and government effectiveness.

Cook, Shaw, Hartman, et al., and Barragués Fernández all proffer that sexual and reproductive health, precisely the elements of the GII, are integral to human rights. Cook and Shaw provide clear relationships between the two topics. Barragués Fernández’s research shows

²² Hartman et al., 1.

²³ Ibid., 2.

²⁴ Ibid., 5.

²⁵ Ibid., 7.

²⁶ Ibid., 9.

that the global perceptions of SRH rights and human rights have manifested in several international forums, including the U.N. 2030 Agenda for Sustainable Development. Despite this, there has been a lack of real global progress in the SRH rights category. Hartman et al. provide data that scholarly work specific to SRH and human rights appears to be deficient concerning the importance of the topic to international prosperity and continued human rights progress. The scholarship reviewed supports the fact that sexual and reproductive health issues are critical to human rights; however, despite the overall international acceptance of this fact, research into the correlation of the two is deficient and global action on the topic is lacking.

Human rights, including SRH rights, are critical variables to consider when analyzing Least Developed Countries (LDC) and developing countries' economic successes or failures in the global community and should guide international policy towards those countries ignoring or blatantly violating these rights. Hartman's paper describes the U.N.'s Committee on Economic, Social and Cultural Rights General Comment on this topic, that bears full quotation: "freedoms include the right to make free and responsible decisions and choices, free of violence, coercion, and discrimination, over matters concerning one's body and sexual and reproductive health."²⁷ Women's sexual and reproductive health are crucial human rights. When denied, they can have monumental and cascading effects on society and governments' ability to function correctly and nations to prosper.

2. Empowerment – measured by women in government and the ratio of women to men having secondary education. Why is this important?

²⁷ Hartman et al., 2.

The empowerment element of the GII examines two categories that are important to the hypothesis that gender inequality interacts with the functioning of government as a predictor for inter/intra-state conflict death: parliamentary seats occupied by women and the ratio of men to women 25 and under with secondary education. The following section reviews research by Belitto and DiRienzo, who both show evidence to indicate secondary education is related to women obtaining seats in government, and women in government have a measurable effect on corruption levels. Corruption levels in government are a variable in the FOG dataset and affect a state's rating on the FOG scale.

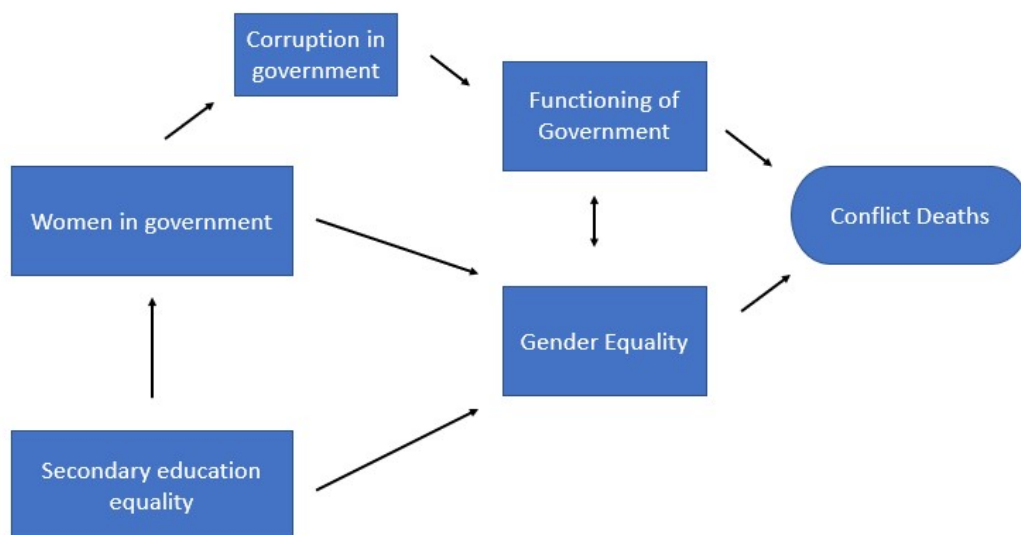


Fig. 2 – Hypothesized interaction among empowerment, corruption, GII, FOG, and conflict deaths.

Women in government and secondary education for women may have a relationship to sexual and reproductive health rights. As Cook and Shaw noted, the nexus is clear: assigning gender roles to young women as primarily child-bearers for society deprives them of education

opportunities and preparation for additional roles in their communities. The scholarship reviewed for these two elements of the GII center around human rights, access to secondary education, and women's role in peace, corruption, and the environment. These aspects, specifically the relationship between women in government roles and its effect on corruption and the peace process, are essential to the overall theory of correlation between the GII and inter/intra-state conflict deaths. The review will look at several research works in the order of education followed by women in government.

Melissa Belitto provides a critical analysis of human rights and women's education and the World Bank's efforts to provide a global movement to make education more available to women.²⁸ She further explores how women's education directly affects societies where education has historically been available only to men. Belitto points to UNESCO data that shows between the years 1990 and 2009, basic education for women saved the lives of over 2 million children globally. Basic nutritional education (a primary cause of child mortality rates), hygiene education, and affirming women's rights to family resources for child-raising reduced overall deaths.²⁹ However, this is basic education to allow women and their children to thrive, not necessarily the secondary education to uplift women out of traditional inequitable roles and give them the tools necessary to compete with men in government and social leadership positions. Belitto describes that despite the increase in primary education allowing women and their children to prosper and a Universal Declaration of Human Rights that addresses education, there

²⁸ Melissa Bellitto, "The World Bank, Capabilities, and Human Rights: A New Vision for Girls' Education Beyond 2015," *Florida Journal of International Law* 27, no. 1 (2015), 91-119.

²⁹ *Ibid.*, 94.

have been marginal increases in a global movement to firmly establish education as a primary human right.³⁰

Why is equal education so important to human rights? Belitto cites the UNESCO 2014 EFA Global Monitoring Report that outlines several key aspects to providing equal educational opportunities: (1) smaller gender gaps in labor force participation and associated wages; (2) educated women are engaged more actively in politics and help shape future equality in political structure; and (3) providing learning institutions for women is an effective way to keep them out of early marriage and adolescent pregnancy.³¹ All of these elements empower women and strengthen communities from the ground up.

Additionally, this research shows the complex relationship between international norms established through declarations that education is a right and holding governments accountable for failing to provide that right. Despite avenues for recourse against governments that violate these standards, this seems to be a self-perpetuating problem: those who are violated most are hindered by the very machinations that lack of educational rights have created. People who are most susceptible to these violations often lack the knowledge or communication skills to present their cases to international governing bodies and often fail (or refuse) to do so out of fear of repercussions from their government.³² The very governments that deny women education rights also prohibit women from participating in the judicial process, including presenting grievances in court or administrative hearings.³³ It is easy to see how a government that allows gender

³⁰ Belitto, 94.

³¹ Belitto, 94.; Global Education Monitoring Report Team, *EFA Global Monitoring Report: Teaching and Learning: Achieving Quality for all*. (Paris, France: UNESCO,[2014]).

³² Belitto, 96.

³³ Ibid., 96.

inequality to persist directly and indirectly perpetuates that inequality through policy and gender-specific laws and prohibitions.

The GII empowerment element focuses on secondary education as a contributing factor to gender inequality. As Belitto points out, “secondary education is where the largest gains are to be made for girls...and is where the most discrimination takes place, making it the hardest to attain.”³⁴ The United Nations Girls’ Education Initiative (UNGEI) report on accelerating secondary education for girls edifies Belitto’s stance with numbers that are difficult to ignore: (1) increasing secondary education of women by just one percent in countries with high gender inequality increases annual per capita income by 0.3 percent; (2) In LDCs and developing countries, secondary education significantly increases lifetime earnings while simultaneously decreasing fertility and mortality rates; (3) one extra year of schooling can increase future wages by 10 to 20 percent.³⁵ By cultivating secondary education as a form of human rights and ensuring access to women and girls, long-term benefits can be realized not just for the individual women but their communities. As Belitto’s research shows, education leads to workforce development and can produce a generation of female teachers, opening opinions and acceptance of sending girls to school. Girls receiving unequal treatment are barriers to some communities sending girls to school. Belitto states that having “properly trained female teachers may mitigate gendered stereotypes” of girls not learning as proficiently as boys.³⁶ Training women as educators facilitates more girls becoming educated and reduces the gender gap.

³⁴ Belitto, 10.

³⁵ United Nations Girls' Education Initiative, *Accelerating Secondary Education for Girls: Focusing on Access and Retention*. (New York, NY: United Nations,[2014]).

³⁶ Belitto, 114.

Belitto posits that education equality has dramatically impacted women and children's health and welfare globally. She also shows that education has a direct and measurable effect on nation-states' economic prosperity and government functioning.

The second element of the GII empowerment category is the ratio of women in parliamentary seats compared to men. Existing research on this relationship finds that women's empowerment directly affects peace. Cassandra DiRienzo of Elon University's Department of Economics has done extensive research into women in government roles the subsequent effects of female leadership. This review of her scholarship will look at two critical aspects pertinent to the GII relationship to conflict deaths: government corruption and women's impact on peace processes. While DiRienzo's work does not directly address conflict death, she makes a clear argument that there is a nexus between women in government leadership or influence and peace. DiRienzo shows that women in government roles "play an important role in the peace processes" through direct and indirect roles.³⁷ She theorizes that government corruption is "not only a root cause of conflict but also a facilitating factor" that has profound adverse effects on peace-building processes.³⁸ Furthermore, DiRienzo points to M. Fernanda Rivas' research that suggests women are generally less susceptible to corruption than men, leading to more reliable peace efforts.³⁹ These ideas are the basis for DiRienzo's theoretical arguments that:

1. The more significant percentage of women in government, the more country-level peace enjoyed.

³⁷ Cassandra E. DiRienzo, "The Effect of Women in Government on Country-Level Peace," *Null* 31, no. 1 (2019), 1. doi:10.1080/14781158.2018.1481023.

³⁸ *Ibid.*, 3.

³⁹ *Ibid.*, 7.

2. The greater percentage of women in government, the lower the level of country corruption.
3. The effect of women in government on corruption reduction has a statistically more robust impact on peace than their direct effect once the level of country corruption is controlled for.⁴⁰

DiRienzo used mediation analysis and regression models to analyze data from the 2016 Global Peace Index (GPI), the 2016 Corruption Perception Index (CPI), World Bank GDP per capita data, and the 2016 Heritage Foundation's Index of Economic Freedom (EFI), along with fractionalized measures of ethnic, linguistic, and religious diversity.⁴¹ The results of DiRienzo's regression models suggest that "(1) Women in government significantly affect the country's peace; (2) Women in government significantly affects corruption; and (3) There is empirical support for the indirect effect of women in government on country peace via their effect on country corruption."⁴²

DiRienzo's quantitative analysis of women's role in government affecting peace and corruption provides statistically significant evidence that in addition to a human rights element, there is a possible correlation between the empowerment element of the GII and inter/intra-state conflict death.

Belitto and DiRienzo both present compelling data that strengthens the empowerment element of the GII as a measure of human rights and a possible causal mechanism for prosperity and peace in developing countries. DiRienzo's research does not directly address the human

⁴⁰ DiRienzo, 8.

⁴¹ Ibid., 13.

⁴² Ibid., 15.

rights element. Still, her data shows that increased peace and reduced corruption within a country's government is a positive move towards equality and increasing human rights.

3. Economic status – labor market participation measured by labor force participation rate of males and females 15 or older. Why is this important?

The labor force equality element of the GII is essential because it provides a data point that economic numbers can quantitatively measure. It is also significant to this paper's hypothesis that functioning of government has a measurable interaction with human rights and conflict death. As shown by the literature review, labor participation rights are not only a human rights issue; they directly correlate to a state's prosperity. Increased labor participation equality leads to economic growth, which affects the functioning of government and inter/intra-state conflict deaths.

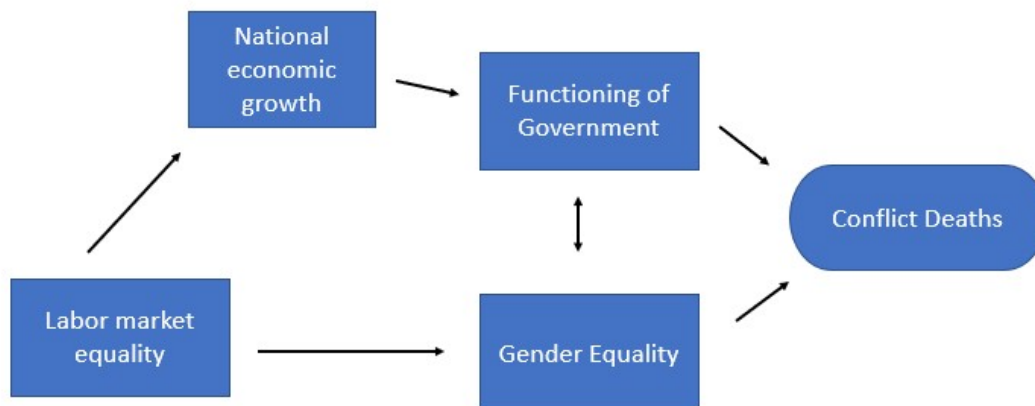


Fig. 3 – Hypothesized interaction among labor equality, economic growth, GII, FOG, and conflict deaths.

Labor force participation in correlation to conflict has seen the least research of all three factors of the GII. In a recent study Laura Cabeza-Garcia, Esther Del Brio, and Mery Oscanoa-

Victoria present a causal relationship theory between women in the labor market and what they term as “Inclusive Economic Growth.”⁴³ The study shows the important relationship between labor equality, human rights, and their effect on state prosperity. Cabeza-Garcia et al. aggregate four variables into their definition of “inclusive economic growth”: (1) female education; (2) female labor force; (3) fertility; and (4) access of women to the political arena (democracy).⁴⁴ The World Bank Databank provided data for analysis, covering a time frame from 2000 to 2014, with 1,718 observations from 127 countries.⁴⁵ Cabeza-Garcia et al. offered four hypotheses, with H2 being most important to this disaggregated element of the GII: “(H2). With higher participation of women in the labor market, greater economic growth is expected.”⁴⁶ The research references multiple previous studies that have shown, for the most part, a significant positive correlation between economic growth and an increase in the opportunity for women to be a part of the workforce. The other three hypotheses are similar to the GII as well, measuring educational access (H1), fertility and fecundity rates (H3), and women in political roles (H4).⁴⁷ A multivariate regression model results show that when more women are active in the workforce, there is a significant correlation to an overall increase of a country’s GDP.⁴⁸ This result would seem to be self-evident, but it is essential to look at this variable as a human rights issue that has a measurable impact on quantifiable economics, not just quality of life. It is the quantifiable numbers of prosperity, unfortunately, that seem to get the most attention by governments for action.

⁴³ Laura Cabeza-García, Esther B. Del Brio and Mery Oscanoa-Victorio, *Gender Factors and Inclusive Economic Growth: The Silent Revolution*, Vol. 10, (2018).

⁴⁴ Ibid., 2.

⁴⁵ Ibid., 5.

⁴⁶ Ibid., 5.

⁴⁷ Ibid., 5.

⁴⁸ Ibid., 8.

Synopsis of literature review

This paper's literature review shows that the disaggregated elements of the UNDP's GII have seen extensive research on their correlation to economic growth, prosperity, and their effects on government function. The previous researchers have presented compelling evidence that gender equality and human rights affect government functioning in many ways, specifically: better gender equality seems to correlate with better government, less corruption, and more economic prosperity.

Apart from Melander and Ekvall's research that examined the direct correlation of gender to violence and state conflict data, the other research exhibits gaps in this area. The literature that does exist, however, suggests gender equality affects government functioning. This paper will attempt to corroborate Ekvall and Melander's results with additional quantifiable data from similar, more recent data. Additionally, this study will examine the disaggregated GII element's effect on human rights interaction with government function in an aggregated format, which should elucidate the previous research literature on the importance of gender equality to government functionality.

Hypothesis

The data examined in this research addresses conflict deaths among citizens in countries experiencing violent conflict. These are not deaths from violent crime or other causes not directly related to inter- or intra-state violent conflict.

Previous research has shown that there appears to be a correlation between gender inequality and human rights, state security, and corruption. State security and corruption have historically been linked to government effectiveness and functionality. This study will use

regression analysis on data from the Quality of Government data set and the UCDP data set to test three specific hypotheses.

H1: The higher the gender inequality index in a state, the higher the rate of conflict deaths.

H2: The higher the functioning of government in a state, the lower the rate of conflict deaths.

H3: Functioning of government interacts with gender inequality in a manner that predicts state conflict deaths.

Methodology and Data

As previously noted, this paper will examine two variables from the Quality of Government (QOG) dataset, GII and FOG, and any measurable relationship to conflict deaths data found in the UCDP data set. Both QOG and UCDP datasets measure observations at the country level. A total of 160 countries contained complete data for analysis. A linear regression model examined the relationship between GII and conflict deaths. An additional linear regression model examined FOG and conflict deaths. An additional regression analysis tested the GII and FOG variables for interaction and relationship to conflict deaths. The results of the interaction regression provided an opportunity to conduct a moderation analysis on FOG and GII.

The QOG dataset provides a myriad of possible causal variables that may predict conflict deaths. The majority of these possible co-variates are excluded from this study due to the limited scope and focus of this research on gender inequality and functioning of government,

specifically. However, the fact that additional data available, but not specifically analyzed in this study does not preclude the possibility that there may be covariate causal relationships that warrant further research.

Independent variable – Gender Inequality Index

The 2020 Quality of Government dataset provided the Gender Inequality Index (GII) dataset, based on the United Nations Development Program (UNDP).⁴⁹ The QOG data for GII was measured for the year 2016, with an N of 160 observations. This data is based on the UNDP 2016 Human Development Report, which measured an inequality index based on a range of observations for 160 countries that had complete data under the following elements:⁵⁰

- maternal mortality ratio, based on the number of pregnancy-related deaths per 100,000 live births
- Adolescent birth rates, based on the number of births to women ages 15 to 19, per 1000 women ages 15 to 19
- parliamentary seats occupied by females, based on the percentage of total seats available
- adult females and males aged 25 years and older with at least some secondary education, percentage based on the ratio of females to males

⁴⁹ Stefan Dahlberg et al., *The Quality of Government Basic Dataset 2020*. (Gothenburg, Sweden: University of Gothenburg, [2020]).

⁵⁰The UNDP Human Development Report, table 5, outlines this data. It observes partial and full data for 188 countries, and other countries and territories. Missing observations for elements of the GII for a particular country result in an incomplete GII index rating. This missing data is omitted from the QOG data set, resulting in 160 observations; United Nations Development Program, *Human Development Report 2016*. (New York, NY: United Nations Development Programme, [2016]).

- labor force participation rate of female and male populations aged 15 years and older, either by working or actively looking for work, as a percentage of the working-age population

GII data is operationalized on a scale of 0 to 1, where 0 = women and men fare equally, and 1 = one gender fares as poorly as possible in all measured dimensions.

Independent variable – Functioning of Government

Freedom House's Freedom in the World report provided the Functioning of Government data in QOG, which measures data from 195 countries and 15 territories globally.⁵¹ Freedom House uses a scoring system and overall "function" status to obtain a rating for each country. The data is qualitative, derived from a series of questions related to citizens' perception of their government's functioning. The data is combined from three major questions, each with several sub-questions:⁵²

1. Do the freely-elected head of government and national legislative representatives determine the policies of the government?
2. Are safeguards against official corruption strong and effective?
3. Does the government operate with openness and transparency?

⁵¹ Freedom House research, "Freedom in the World Research Methodology,"

<https://freedomhouse.org/reports/freedom-world/freedom-world-research-methodology>

⁵² These questions contain comprehensive sub-questions focusing on 1) corruption, free and fair legislation, armed forces or foreign government influence, criminal influence, and partisan polarization and obstructionism impairing budgetary/financial legislative functioning; 2) Anti-corruption laws, excessive bureaucracy increasing opportunity for corruption, independent oversight, fair investigation of corruption, media coverage of corruption, and whistleblower and media protection for freely reporting; 3) Citizen ability to examine legislation freely, civil society groups and citizens ability to comment and become involved in policy/legislation, elected official's availability to constituents, and transparency in budgetary legislation and government officials' personal assets.

The FOG data ranges on a scale from 0 (worst) to 12 (best), with observations from 2016 to match the GII data set. N = 194.

Dependent variable – conflict death rates

Uppsala University Department of Peace and Conflict research provided the UCDP dataset. This research utilizes the 2020 version 20.1 dataset, which contains information on conflict from 1989 through the end of 2019. The UCDP data tracks deaths resulting from an event in a country based on three types of violence: 1) state-based conflict, 2) non-state conflict, and 3) one-sided conflict.⁵³ UCDP defines “event” as: “*An incident where armed force was used by an organized actor against another organized actor, or against civilians, resulting in at least one direct death at a specific location and a specific date.*”⁵⁴

Further operationalization of the event sub-elements is defined:⁵⁵

- Armed force: use of arms in the conflict, resulting in death. Arms is further operationalized as any manufactured weapon, including sticks, stones, fire, water, etc.
- Organized actor: Government of an independent state, formally organized group, or informally organized group.
- Direct death: death resulting from combat between organized actors or violence against civilians.

This research used the “best” variable (referred to from now as *deaths*) included in the UCDP dataset, which is the most likely estimate of total deaths resulting from an event. Deaths are derived from a sum function of fatalities from “side a,” “side b,” “civilian deaths,” and

⁵³ Sundberg and Melander, "Introducing the UCDP Georeferenced Event Dataset," *Journal of Peace Research* 50, no. 4 (2013), 4.

⁵⁴ Ibid., 4.

⁵⁵ Ibid., 4.

“unknown deaths.”⁵⁶ This study attempts to correlate a GII and FOG relationship between total conflict deaths. Therefore, it does not need to disaggregate the three basic types of UCDP organized violence: state-based, non-state based, and one-sided. The UCDP 20.1 version data records events by geographic location, which are then assigned to the country where the event occurred. Data from 122 countries were analyzed. Only data from the year 2016 was used to correlate with the 2016 GII and FOG data.

Analysis

Two bivariate linear regression models were obtained: 1) GII and UCDP deaths, and 2) FOG and UCDP deaths. An additional linear regression model (moderating analysis) was obtained that included GII and FOG and their interaction terms as predictors for conflict death. An R Studio statistics program merged data from the QOG (which contains the GII & FOG variables) with the UCDP 20.1 data. The initial data frame containing the 2016 combined data resulted in 13,238 observations. After inspection, the data revealed significant zero inflation. A large N observation over 122 countries resulted in many countries having no conflict deaths. To obtain a somewhat normal distribution and as accurate a regression model as possible, zero deaths data were removed. Zero deaths removal to avoid skew resulted in a normal distribution. The regression models analyzed only geographic locations with at least one event death.

After inspecting Z-scores, 665 outliers were identified and excluded from the analysis.⁵⁷ Transformation of the deaths variable to the base log of 10 (log10) corrected positive skew. The log10 transformation provided a skewness of 0.53 for deaths. This observed skewness suggests a

⁵⁶ Höglbladh, 11.

⁵⁷ With a large number of observations, a Z-test was performed utilizing a common 3 standard deviations (SD) rule to identify any outliers.

slight to moderate positive skew, suitable for analysis. After the log10 transformation and removal of outliers, deaths exhibited a somewhat normal distribution applicable for use in a regression model.

H1: The higher the gender inequality index in a state, the higher the rate of conflict deaths.

GII - deaths regression results:

The statistics analysis program removed 1,749 observations due to missing data:

The regression model for GII (IV) and deaths (DV) shows a significant positive relationship with a *P-value* of less than .001, for a total of 10,953 observations. The *b* coefficient estimate is 0.35, indicating a positive 0.35 value in log10 deaths for each positive value increase in GII. After exponentiating the coefficients, the $b = 2.22$, predicting 2.22 additional deaths for each increase in GII value. The adjusted $R^2 = 0.01$, showing a small but significant effect. The Confidence Interval is 0.26 and 0.43, which indicates a wide and uncertain confidence; however, it does not contain a zero-value, suggesting that it is unlikely there is no effect.

This regression model would indicate the possibility of a correlation between increased deaths in countries where gender inequality is greater. The plot shows a visually observable trend and appears significant (Fig. 4).

Significant, $t(1, 10,952) = -1.75, p < .001, b = 0.35, CI\ 95\% [0.26, 0.43] R^2 = .01$

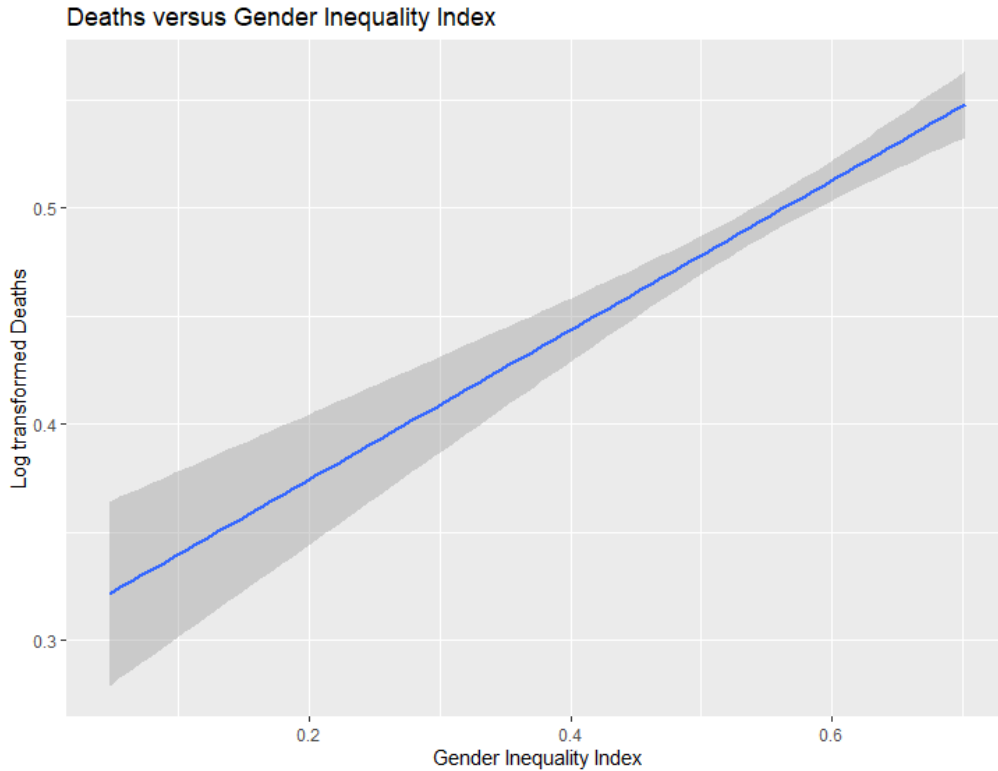


Fig. 4 – Log Deaths vs. Gender Inequality Index

H2: The higher the functioning of government in a state, the lower the rate of conflict deaths.

FOG – deaths regression results:

The regression model for FOG (IV) and deaths (DV) shows a significant negative relationship with a *P-value* of less than .001 for 11,338 observations. The *b* coefficient estimate is -0.01, showing a negative 0.01 value in log10 deaths for each positive value increase in FOG. After exponentiating the coefficients, the $b = 0.97$, predicting 0.97 fewer deaths for each increase

in FOG value. The adjusted $R^2 = 0.004$, showing a small but significant effect. The Confidence Interval is -0.014 and -0.007, indicating uncertain confidence; however, it does not contain a zero-value, indicating that the effect is small but unlikely to have no effect.

This regression would indicate a correlation between a decrease in deaths in countries where government functioning is greater. The plot shows a visually observable trend and appears significant (Fig. 5).

Significant, $t(1, 11,337) = -6.48$, $p = <.001$, $b = -0.01$, CI 95% [-0.014, -0.008] $R^2 = 0.004$

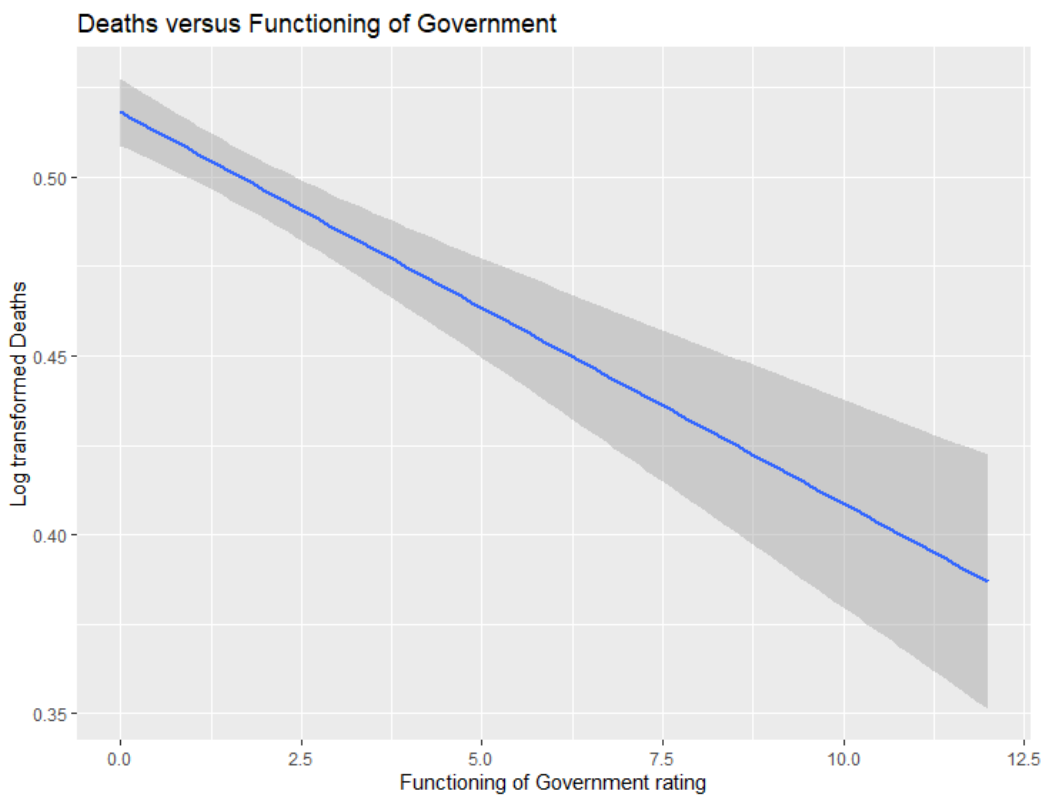


Fig. 5 – Log deaths vs. Functioning of Government Rating

H3: Functioning of government interacts with gender inequality in a manner that predicts state conflict deaths.

GII and FOG interaction with conflict deaths results:

An interaction regression model was examined, with FOG as a moderating variable.

FOG:

Significant, $t(1, 10,590) = -9.1, p = <.001, b = -0.1$

GII:

Not Significant, $t(1, 10,590) = -1.24, p = 0.22, b = -0.08$

GII and FOG interaction

Significant, $t(1, 10,590) = 7.70, p = <.001, b = 0.15$

The interaction regression results show three interesting findings (see Table 1): 1) FOG shows a significant negative independent effect with deaths. The $b = -0.1$ indicating a negative 0.1 value decrease for every increase value in FOG; 2) *GII is no longer a significant independent predictor of deaths when FOG is considered*; 3) *GII interacting with FOG does show significant positive interaction and relationship to deaths*. The adjusted $R^2 = 0.02$ shows that the predictors account for a small but significant proportion of deaths variance.

Table 1. Interaction regression GII & FOG

coefficients	Estimate	Std. Error	t-value	Pr ($> t $)
(Intercept)	0.55	0.03	15.8	$< 2e-16$ ***
fh_fog	-0.1	0.01	-9.1	$< 2e-16$ ***
gii_gii	-0.08	0.06	-1.24	0.22
<i>fh_fog:gii_gii</i>	0.15	0.02	7.7	$1.51e-14$ ***

Due to the significant interaction between FOG and GII, additional moderation analysis was examined to determine how the relationship between GII and deaths changes as a FOG function.

FOG data was converted to a factor with two levels for moderation analysis: 1) FOG high, indicating a high functioning of government, defined as any country that contained a FOG greater than or equal to the average FOG for the sample plus one standard deviation ($FOG \geq 3.9$); and 2) FOG low, all regions with a $FOG < 3.9$. After dividing the sample by high versus low FOG, $N = 1,456$ with a high FOG ($M = 6.98$, $SD = 1.5$), and $N = 9883$ with low FOG ($M = 0.734$, $SD = 1.02$). The relationship between GII and deaths was plotted separately for high and low FOG groups. After inspecting the plot, there remained a positive relationship between GII and deaths for low FOG countries; however, there appeared to be no relationship between GII and high FOG countries' deaths (Fig. 6).

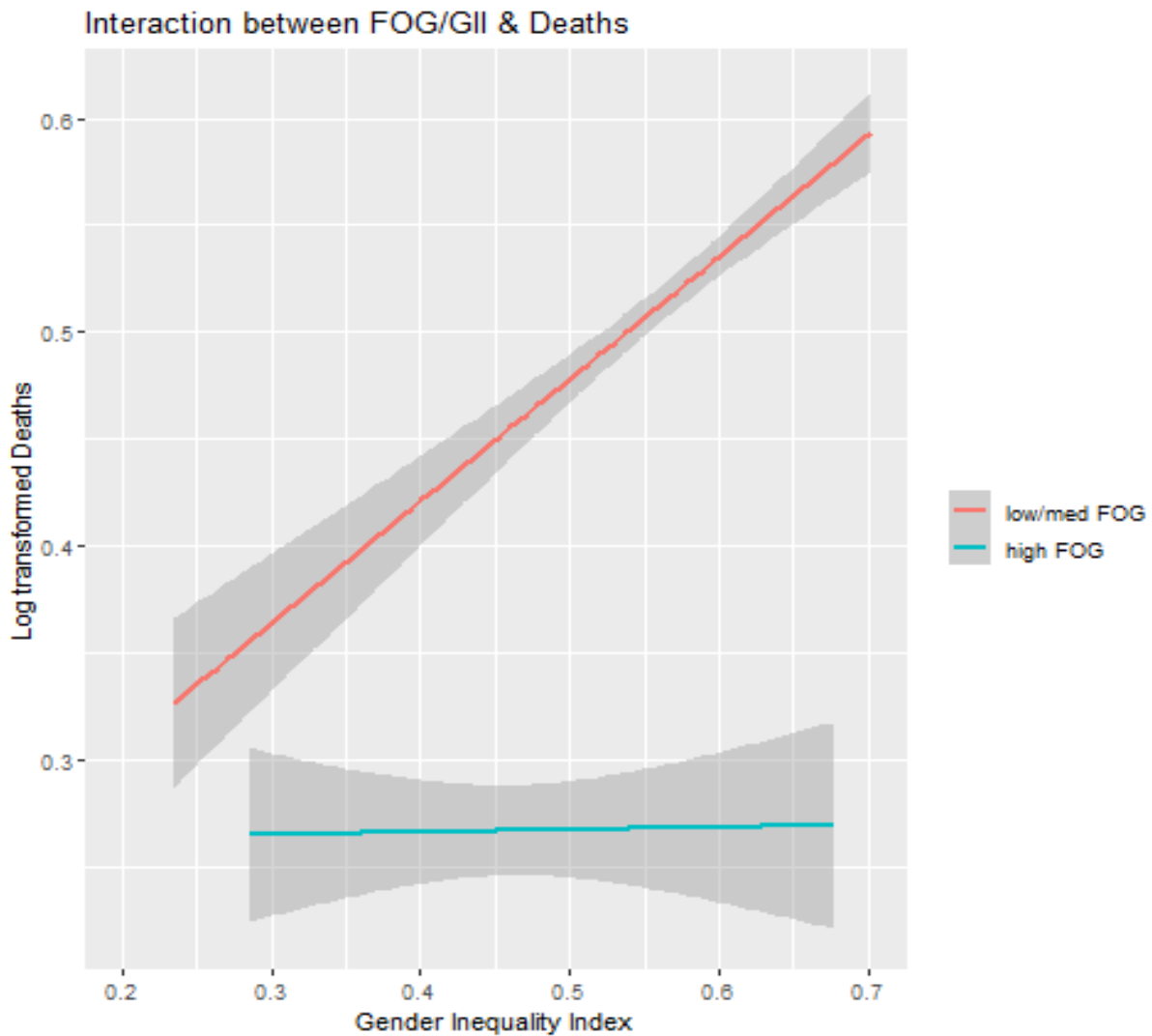


Fig. 6 – FOG as a moderating variable to GII vs. Log deaths

Discussion

The regression models show a clear relationship between GII, FOG, and deaths. As a singular independent variable, GII initially appeared to have a significant positive relationship with deaths. The result indicated an increase in deaths correlating with an increase in gender inequality. During the multivariate regression model, FOG showed a significant negative

relationship with deaths, suggesting that deaths decrease as functioning of government increases. Additionally, FOG emerged as a moderating variable interacting with GII's relationship with deaths, showing the extent to which GII has a relationship with deaths depends on FOG.

Functioning of government appears to be a predictor of deaths. The moderating analysis delineates this relationship further by showing gender inequality may predict conflict deaths in countries with low to medium functioning governments but seems to have little predictive value for countries with high government functioning.

The observable implications of this are that countries with less corruption, more transparency, and accessibility by their constituents appear to have fewer conflict deaths. Gender inequality in those countries has little to no observable effects on conflict deaths. Conversely, governments with low function, higher corruption and outside/military influence, and less transparency appear to have higher conflict deaths. Higher gender inequality ratings in those countries do correlate with higher conflict deaths.

It is important to note that the correlation between GII, FOG, and deaths, while having statistically significant and predictive values, does not necessarily mean causation. Other potentially confounding variables, such as levels of democracy, and energy and infrastructure, present opportunities for further research. Identifying possible additional casual relationships between GII and other related factors such as religious freedoms, political terror scale, female to male life expectancy rates, and others may provide critical information to international organizations when making recommendations or policy advisement for developing countries and countries with low FOG and high GII ratings.

Conclusion

This research study aimed to determine the possibility of a correlation between gender inequality, functioning of government, and conflict deaths. Previous research shows relationships between gender inequality, human rights, government functioning, and peace and prosperity. This study expands and confirms some of those relationships by building upon this previous research with more recent conflict and social/governmental data. Although the correlation between the variables appears small, the moderating analysis shows an interesting relationship to conflict deaths between gender inequality and low functioning of government. Why is this? The possibility exists that states with lower functioning of government values have infrastructure and corruption problems that are simply exacerbated by gender inequality (SRH, empowerment, labor market equality), resulting in higher conflict deaths.

Conversely, the possibility exists that higher conflict deaths increase gender inequality, resulting in lower functioning of government values. A third possibility is that gender inequality is a proxy factor for an additional causal mechanism on the functioning of government and deaths.⁵⁸ These possibilities are essential enough to warrant further research.

The salient question is, can the data on gender inequality and its relationship to government functioning and deaths be used to reduce conflict deaths? Women's rights, described in this study by a relatively small social window of sexual and reproductive health, empowerment, and labor force inclusion, seem to significantly affect nations' prosperity and ultimately correlate to conflict deaths. By focusing on the gender inequalities described in this study and increasing international pressure to persuade countries with low functioning

⁵⁸ Jenny Birchall, *Gender as a Causal Factor in Conflict*. (Brighton, UK: K4D Helpdesk Report,[2019]).

government scores to address these issues, deaths from inter- and intra-state conflicts can be reduced. Additionally, as previous research shows, improving gender inequities results in a general increase in peace and prosperity. Increasing and ensuring women's parliamentary involvement, education, sexual, and workforce rights is not only the right thing to do; as research shows, it edifies the quality of governments and ultimately the quality of life for all.

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Curriculum Vitae

Robert Terry Leonard is a sworn Agent for the Montana Department of Justice, working directly for the Montana Department of Corrections (DOC) as a Criminal Investigator. He is a board member of the Northwest Gang Investigator's Association, specializing in Security Threat Groups and Drug Trafficking Organization investigations. Prior to his DOC posting, Mr. Leonard spent most of his law enforcement career as an undercover narcotics agent and Drug Enforcement Agency (DEA) Task Force Officer investigating local and transnational drug and human trafficking crimes. He is a certified law enforcement instructor, holding an advanced Peace Officer certificate, and is an adjunct Special Weapons and Tactics (SWAT) instructor at the Montana Law Enforcement Academy.

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